

**ABSTRACT OF THE DISCLOSURE**

A system comprising a memory and wavelet processing logic is described. The memory is sized to include lines to store a band of an image and additional lines. The wavelet processing logic comprises a wavelet  
5 transform and access logic. The wavelet transform generates coefficients when applied to data in the memory. The access logic reads data from the memory into the line buffers to supply data stored in the memory to the wavelet transform and to store coefficients in the memory, such that after data stored at a first pair of lines is read from memory into the buffers of the  
10 access logic. The access logic reuses the first pair of lines to store coefficients generated by the wavelet transform that are associated with a second pair of lines different from the first pair of lines.